

**VIRGINIA RETIREMENT SYSTEM
BOARD OF TRUSTEES**

October Twentieth, Two Thousand Sixteen

The Virginia Retirement System Board of Trustees held its regular meeting on October 20, 2016 at the Bank of America Building, 1111 East Main Street, Richmond, Virginia with the following members present:

*Robert L. Greene, Chair
Diana F. Cantor, Vice-Chair
Hon. J. Brandon Bell, II (Remote Location)
Wallace G. Harris
W. Brett Hayes
William H. Leighty
Joseph W. Montgomery
Mitchell L. Nason
Troilen Seward*

Also present were: Trish Bishop, Ron Schmitz, John Alouf, Rory Badura, Parham Behrooz, Richard Brooks, Michael Cooper, Jeanne Chenault, Perry Corsello, Harriet Covey, Barry Faison, Josh Fox, Brian Goodman, J. T. Grier, Dane Honrado, K.C. Howell, Robert Irving, Ross Kasarda, LaShaunda King, Kristina Koutrakes, Matt Lacy, Chung Ma, Curt Mattson, Steve McClelland, Laurie Nelson, Walker Noland, Greg Olif, Ken Robertson, Jennifer Schreck, Michael Scott, Andrew Simpson, Dan Whitlock, Cindy Wilkinson and Nicholas Zizzo.

Guests present were: Mark Gribbin with the Joint Legislative Audit and Review Commission; Liz Myers with the Office of the Attorney General; Kristy Scott with the Office of the Auditor of Public Accounts; Carol Donohue with the Virginia Education Association; Jose Fernandez, Eric Gary and John Garrett with Cavanaugh MacDonald Consulting, LLC.; and Michael Martz with the Richmond Times-Dispatch.

Mr. Greene called the meeting to order at 1:00 p.m. Mr. Greene presented the agenda. Upon motion of Mr. Nason, with a second of Mr. Harris, the Board approved the agenda by roll call vote:

*Mr. Bell: Aye
Mr. Leighty: Aye
Mr. Montgomery: Aye*

*Mr. Harris: Aye
Ms. Seward: Aye
Ms. Cantor: Aye
Mr. Nason: Aye
Mr. Hayes: Aye
Mr. Greene: Aye*

APPROVAL OF MINUTES

Upon a motion of Mr. Harris, with a second by Mr. Nason, the Board approved the minutes of the Board of Trustees meeting of September 13, 2016 by roll call vote:

*Mr. Bell: Aye
Mr. Leighty: Aye
Mr. Montgomery: Aye
Mr. Harris: Aye
Ms. Seward: Aye
Ms. Cantor: Aye
Mr. Nason: Aye
Mr. Hayes: Aye
Mr. Greene: Aye*

CIO REPORT

Mr. Schmitz began his report with an economic update. He stated the central banks have been a focal point for the market since the last Board meeting. While the Federal Reserve did not raise rates in September, Mr. Schmitz noted expectations are high that there will be a rate hike in December even as Federal Reserve Chair Janet Yellen has indicated a willingness to allow inflation to exceed its target of 2% in the short term to boost demand and improve labor markets. Mr. Schmitz noted the CPI is below 1.5%; discussions of globalization and international trade have dominated recent headlines; global growth in the recovery has struggled; and domestic indicators increased but then returned to post-recovery lows.

Next, Mr. Schmitz discussed asset allocation. He noted VRS is maintaining a slightly defensive position. Specifically, the portfolio is underweight in public equity, real assets and private equity, and overweight in fixed income, credit strategies, cash, and the Strategic Opportunities Portfolio.

Mr. Schmitz then reviewed plan performance. He noted while the fiscal year-to-date performance as of August was slightly below the benchmark, the one, three, five and ten-year returns outperformed the benchmarks. Mr. Schmitz also discussed fund volatility, tracking error, and information ratio. In conclusion, Mr. Schmitz reviewed the New Investments and Terminations

Report, the Quarterly SWAM Report and the Quarterly External Investment Manager Referral Report.

Mr. Greene thanked Mr. Schmitz for his report.

REPORT OF THE BENEFITS AND ACTUARIAL COMMITTEE

The Board received the Benefits and Actuarial Committee Report of October 19, 2016 and placed it on file.

Election of Vice-Chair

Mr. Harris reported that Troilen Seward was elected as Vice-Chair of the Committee. Mr. Harris thanked Mr. Nason for his guidance, leadership and insightful comments over the last four years as Chair of the Committee.

Optional Group Life – Update on Rate Reduction

Mr. Harris advised that the Committee received an update from Joe Chang of Minnesota Life on the status of the optional group life contribution rates. The rates are reviewed and evaluated annually by VRS in consultation with Minnesota Life. The last rate reduction was implemented in 2014 (with a five-year rate guarantee). As there has not been significant subsequent experience since that time, Minnesota Life will hold the rates at their current level to allow for at least one more year of claim experience.

VRS Stress Testing and Pension Metrics

Mr. Harris stated that during the Commission on Retirement Security and Pension Reform, the Pew Charitable Trusts recommended that VRS conduct stress testing of its plans. He reported that Mr. Badura discussed an approach for stress testing of retirement plans, upon which the Pew recommendations were based, that was outlined by the Blue Ribbon Panel on Public Pension Funding commissioned by the Society of Actuaries in 2014. At this time; however, the Society of Actuaries hasn't incorporated the recommendations into its standards of practice.

Mr. Badura also discussed and presented samples of alternative pension metrics and measures of long-term risk such as contribution components, key contribution benchmarks, differing return and discount rates, and cash flow projections, all of which can be developed and provided to the Committee, the Board and other stakeholders on a regular basis to provide useful, VRS-specific information. Mr. Harris advised that VRS staff will bring recommended metrics and frequency of reporting to the Committee for consideration.

Cavanaugh Macdonald Actuarial Valuation Results

Next, Mr. Harris advised that the Committee received the report on the June 30, 2016 actuarial valuations for the Five Statewide

Retirement Systems, Group Life Insurance, Health Insurance Credit and the Virginia Sickness and Disability Program. The VRS actuary conducts actuarial valuations annually as of the close of the fiscal year (June 30). In odd-numbered years the valuations are used to establish employer contribution rates. The results in even-numbered years are shared with the Board of Trustees to inform the Board of any emerging trends or indications of the magnitude and direction of contribution rates. Mr. Fernandez and Mr. Gary, representatives from the VRS plan actuary, Cavanaugh Macdonald Consulting, LLC, made a similar presentation to the Board, later in the meeting.

Status Update – City of Petersburg

Mr. Harris reported that Ms. Bishop provided the Committee with an update on the City of Petersburg and its contributions to VRS. As required by a new provision in the current Appropriation Act, VRS sent a letter to the chairs of the Senate Finance Committee and the House Appropriations Committee informing them of arrearages in various VRS contributions and the portion that is more than 60 days in arrears.

Proposed 2017 Meeting Schedule

Mr. Harris noted that the Committee reviewed the proposed 2017 Committee meeting schedule. The finalized schedule will be reflected on the VRS Website.

Next Committee Meeting

In conclusion, Mr. Harris noted that the next scheduled Committee meeting is November 14, 2016 at 9:30 a.m. in the VRS Conference Room, Third Floor, 1111 E. Main Street.

Presentation of Actuarial Valuation Results

At Mr. Harris' request, Mr. Fernandez and Mr. Gary, representatives from the VRS plan actuary, Cavanaugh Macdonald Consulting, LLC, discussed for each plan: the pension funded status; unfunded pension liabilities; employer contribution rates; and gain/loss analysis. They also discussed OPEBs (Health Insurance Credit (HIC), the Virginia Sickness and Disability Program (VSDP), and Group Life); the impact of GASB Statements No. 74 and No. 75 on OPEBs; contribution rates; and funded status. Highlights of the presentation included:

- Employer contribution rates decreased for all pension plans;*
- The actuarial value of assets increased for all pension plans, and the market value funded status decreased;*
- The contribution rates reflected the 2013 funding policy which created closed amortization periods for paying down the unfunded liabilities;*
- The 10-year payback of deferred contributions for the 2010-2012 biennium has been fully repaid, except for the Teachers*

Plan, and is no longer included in the unfunded liability rates;

- *The accelerated payback of deferred contributions to the state plans of \$189 million in 2016 reduced the retirement contribution rates for the 2016 evaluation;*
- *The Teachers Plan received an additional contribution of \$193 million in 2015, which further reduced the contribution rates for the Teacher Plan beginning in 2015;*
- *The pension plans experienced a substantial gain (\$854 million) because the COLA paid was less than the actuarial assumption.*
- *The employer contribution rates for OPEB plans remained relatively unchanged from the prior valuation.*

***Request for Board Action: 2016-10-27
Acceptance of June 30, 2016 Actuarial
Valuations for Statewide Plans***

Mr. Harris advised that after some discussion, the Committee recommended that the Board accept the valuations.

Upon motion of Ms. Seward, with second by Mr. Nason, the Board approved the following action by a roll call vote:

The Board accepts the June 30, 2016 Actuarial Valuations conducted by the VRS actuary, Cavanaugh Macdonald Consulting, LLC for the Five Statewide Retirement Systems, Group Life Insurance, Health Insurance Credit and the Virginia Sickness and Disability Program.

*Mr. Greene: Aye
Ms. Cantor: Aye
Mr. Nason: Aye
Mr. Hayes: Aye
Mr. Leighty: Aye
Mr. Montgomery: Aye
Mr. Harris: Aye
Ms. Seward: Aye
Mr. Bell: Aye*

Mr. Greene thanked Mr. Harris for his report.

REPORT OF THE DIRECTOR

New Coverage

Ms. Bishop provided a report on new coverage, noting that several employers elected to participate in the Commonwealth of Virginia Deferred Compensation Plan (457); and one employer elected to allow participation in the Employer-Sponsored Hybrid 403B Plan; and one employer elected to not allow participation.

***Required Reporting of Employer in
Arrears of Contribution Payment***

Ms. Bishop advised that a new budget item requires VRS to report to the Chairs of House Appropriations and Senate Finance

any employer in arrears by 60 days or more for the payment of contributions to VRS. The City of Petersburg is in such a situation. VRS is working with the City of Petersburg to resolve the situation.

Agency Roadmap Update

Ms. Bishop provided an update of the Agency Roadmap. She was pleased with the overall progress, but stated that the Purchase of Prior Service legislation implementation, office renovations and the Optional Retirement Plan for Higher Education rollout of open enrollment of vendors (OHP-HE wave 2) are being closely monitored to ensure satisfactory completion. Progress is a collaborative effort on the part of all staff. Mr. Nason stated his appreciation of the monthly update.

In conclusion, Ms. Bishop reported that the Commission on Employee Retirement Security and Pension Reform met on October 17th. The content of the meeting was helpful and the dialogue was very positive. Another meeting will occur in November. The Board will be apprised of any developments.

Resolutions for Custodial and Signature Authorizations

At Ms. Bishop's request, Mr. Faison presented the Resolution for Master Custodial Services and the Resolution for Payment of Retirement System Funds in the State Treasury and Signing Official Documents. The documents set out the Board's intentions regarding authority to sign documents.

Upon motion of Mr. Leighty, with second by Mr. Nason, the Board approved the changes to the Resolution for Master Custodial Services by roll call vote:

*Mr. Greene: Aye
Ms. Cantor: Aye
Mr. Nason: Aye
Mr. Hayes: Aye
Mr. Leighty: Aye
Mr. Montgomery: Aye
Mr. Harris: Aye
Ms. Seward: Aye
Mr. Bell: Aye*

Upon motion of Mr. Leighty, with second by Mr. Nason, the Board approved the changes to the Resolution for Payment of Retirement System Funds in the State Treasury and Signing Official Documents by roll call vote.:

Mr. Greene: Aye
Ms. Cantor: Aye
Mr. Nason: Aye
Mr. Hayes: Aye
Mr. Montgomery: Aye
Ms. Seward: Aye
Mr. Bell: Aye
Mr. Leighty: Aye
Mr. Harris: Aye

ADJOURNMENT

There being no further business to discuss, the Board meeting adjourned at approximately 1:45 p.m.



Chair



Secretary

RESOLUTION
FOR PAYMENT OF RETIREMENT SYSTEM FUNDS
IN THE STATE TREASURY AND SIGNING OFFICIAL DOCUMENTS

Pursuant to the authority vested in the Board of Trustees of the Virginia Retirement System by *Code of Virginia* § 51.1-149, on this 20th day of October 2016 it is hereby

RESOLVED, that all prior designations by the Board of Trustees of the Virginia Retirement System of persons authorized to sign vouchers and Voucher Transmittals issued by the Retirement System for the payment of funds of the Retirement System in the State Treasury are hereby revoked; and

BE IT FURTHER RESOLVED, that the State Treasurer, the Director of Operations, and the Director of Cash Management and Investments, or their designees, are hereby designated by the Board as those persons authorized to sign only those vouchers issued by the Retirement System for the payment of funds of the Retirement System in the State Treasury which are contained in Agency Business Unit 15800 Account Number 103607, which has been designated by the Comptroller as the short-term investment account, including but not limited to, funds used to purchase short-term securities to mature within two (2) years and to effect repurchase agreements involving securities of varying maturities which are held as short-term investments; and

BE IT FURTHER RESOLVED, that the Director of the Retirement System, the Chief Financial Officer, the Chief Operating Officer, the Customer Services Director and the Chief Technology Officer, whose signatures appear herein, are hereby designated by the Board as those persons authorized to sign Voucher Transmittals issued by the Retirement System for the payment of any and all funds of the Retirement System in the State Treasury and any and all accounts designated by the Comptroller as Retirement System funds accounts, including Agency Business Unit 15800 Account Number 103607, provided that such Voucher Transmittals shall be initialed by appropriate supervisory and management level staff personnel; and

BE IT FURTHER RESOLVED, that the Chief Financial Officer, the Customer Services Director and the Chief Technology Officer are not authorized to sign a Voucher Transmittal prepared in their respective department; and

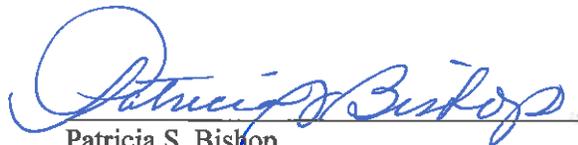
BE IT FURTHER RESOLVED, that the Director of the Retirement System, the Chief Operating Officer, the Chief Investment Officer or the Chief Administrative Officer - Investments are hereby designated full authority to sign any and all official documents in the name of the Board of Trustees of the Virginia Retirement System including, but not limited to, leases, deeds, contracts, equity index futures and options on such futures, signature cards, minutes and purchase orders; and

BE IT FURTHER RESOLVED, that a copy of this resolution shall be forward immediately to the Office of the Comptroller.

ATTEST:



Robert L. Greene
Chairman, VRS Board of Trustees

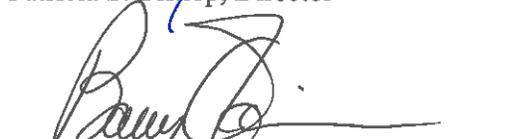


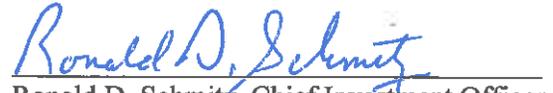
Patricia S. Bishop
Secretary to the VRS Board of Trustees

**SIGNATURE PAGE
FOR PAYMENT OF RETIREMENT SYSTEM FUNDS
IN THE STATE TREASURY AND SIGNING OFFICIAL DOCUMENTS**


Patricia S. Bishop, Director


L. Farley Beaton, Jr., Chief Technology Officer


Barry C. Faison, Chief Financial Officer


Ronald D. Schmitz, Chief Investment Officer

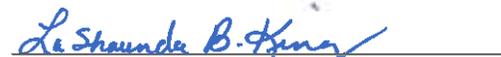

Michael P. Cooper, Chief Operating Officer


Robert L. Irving, Customer Services Director

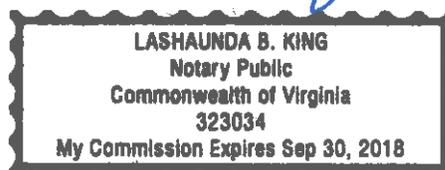

Curtis M. Mattson, Chief Administrative Officer - Investments

COMMONWEALTH OF VIRGINIA
CITY OF RICHMOND, TO-WIT:

The foregoing instrument was acknowledged before me this 20th day of October 2016 by Robert L. Greene; Patricia S. Bishop; Barry C. Faison; L. Farley Beaton, Jr.; Ronald D. Schmitz; Michael P. Cooper; Robert L. Irving and Curtis M. Mattson.


LaShaunda B. King, Notary Public

My commission expires Sept. 30, 2018.



**RESOLUTION
FOR MASTER CUSTODIAL SERVICES**

Pursuant to the authority vested in the Board of Trustees of the Virginia Retirement System by *Code of Virginia* § 51.1-149, on this 20th day of October 2016, it is HEREBY

PREVIOUS DESIGNATIONS REVOKED

RESOLVED, that all prior designations by the Board of Trustees of the Virginia Retirement System of persons authorized to sign investment invoices and actions involving the distribution or payment of funds or transfer of assets of the Virginia Retirement System under your custodial control as well as actions involving administrative matters and proxies within their custodial control are hereby revoked; and

VRS ASSET TRANSFERS AND ACCOUNT PAYMENTS

BE IT FURTHER RESOLVED, that dual signatures, one of which shall be from the Director of the Virginia Retirement System, the Chief Financial Officer, the Chief Operating Officer, the Customer Services Director, or the Chief Technology Officer and the second shall be from the Chief Investment Officer, the Chief Administrative Officer - Investments, the Investments Compliance Officer or the Investments Office Administrator, are hereby required and that those persons are designated and authorized by the Board to sign for all actions involving the distribution or payment of funds or transfer of assets of the Virginia Retirement System under your custodial control that (i) are not initiated by an authorized investment advisor associated with the settlement of a purchase or sale transaction and (ii) are not for the payment of investment management, consulting or custodian fees. If investment personnel are unavailable, any two of the listed VRS administrative personnel could sign. However, in no event shall both signatures be those of investment department personnel; and

VRS ACCOUNT ADMINISTRATIVE MATTERS

BE IT FURTHER RESOLVED, that the Director of the Virginia Retirement System, the Chief Investment Officer, the Chief Administrative Officer - Investments, the Investments Compliance Officer, the Investments Office Administrator, the Controller and the Manager of Investment Accounting are designated by the Board as those additional persons authorized to open and close accounts and take other administrative actions for the VRS accounts not involving the signing of official documents in the name of the Board of Trustees of the VRS or the distribution or payment of funds or transfer of assets of the Virginia Retirement System under your custodial control; and

PROXIES

BE IT FURTHER RESOLVED, that the Chief Investment Officer, the Chief Administrative Officer - Investments, or the Investments Compliance Officer are hereby designated by the Board as the persons authorized to sign proxies for the VRS accounts; and

COMPLIANCE

BE IT FURTHER RESOLVED, that the Director of the Virginia Retirement System, the Chief Investment Officer, the Chief Administrative Officer - Investments, or the Investments Compliance Officer are hereby designated by the Board as those persons authorized to sign for all actions involving compliance issues to include, but not be limited to, class actions suits, tax exemptions, authorized signatures, stock and bond powers, required resolutions as needed, etc.

ATTEST:

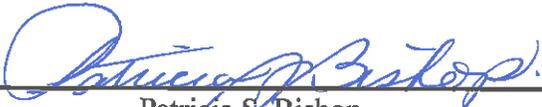


Robert L. Greene, Chair
VRS Board of Trustees



Patricia S. Bishop
Secretary to the Board/VRS Director

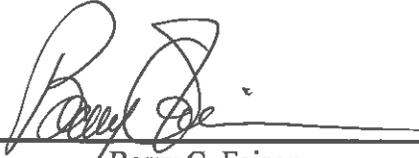
**VIRGINIA RETIREMENT SYSTEM AUTHORIZED SIGNATURES
FOR MASTER CUSTODIAL SERVICES**



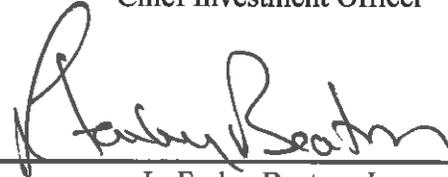
Patricia S. Bishop
Director



Ronald D. Schmitz
Chief Investment Officer



Barry C. Faison
Chief Financial Officer



L. Farley Beaton, Jr.
Chief Technology Officer



Michael P. Cooper
Chief Operating Officer



Robert L. Irving
Customer Services Director



Curtis M. Mattson
Chief Administrative Officer - Investments



Leslie B. Weldon
Controller



Laurie L. Nelson
Investments Compliance Officer



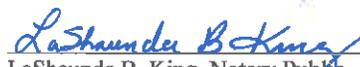
Abida W. Arezo
Manager of Investment Accounting



Danita R. Barnes
Investments Office Administrator

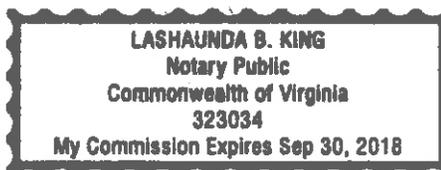
**COMMONWEALTH OF VIRGINIA
CITY OF RICHMOND, TO-WIT:**

The foregoing instrument was acknowledged before me this 20th day of October 2016 by Robert L. Greene; Patricia S. Bishop; Ronald D. Schmitz; Barry C. Faison; L. Farley Beaton, Jr.; Michael P. Cooper; Robert L. Irving; Curtis M. Mattson; Leslie B. Weldon; Laurie L. Nelson, Abida W. Arezo and Danita R. Barnes.



LaShaunda B. King, Notary Public

My commission expires September 30, 2018.



**REPORT OF THE
BENEFITS AND ACTUARIAL COMMITTEE
Meeting of October 19, 2016**

The Benefits and Actuarial Committee met on Wednesday, October 19, 2016 and took up the following matters:

Election of Vice-Chair

The Committee elected Troilen G. Seward as Vice-Chair of the Committee.

Optional Group Life – Update on Rate Reduction

Ms. Bishop introduced Joe Chang of Minnesota Life to update the Committee on the status of the optional group life contribution rates. The rates are reviewed and evaluated annually by VRS in consultation with Minnesota Life. In summary, since the last rate reduction was done in 2014 (with a five-year rate guarantee) and there has not been significant subsequent experience since that time, Minnesota Life will hold the rates at their current level to allow for at least one more year of claim experience.

VRS Stress Testing and Pension Metrics

During the Commission on Retirement Security and Pension Reform, the Pew Charitable Trusts recommended that VRS conduct stress testing of its plans. Mr. Badura discussed an approach for stress testing of retirement plans, upon which the Pew recommendations were based, that was outlined by the Blue Ribbon Panel on Public Pension Funding commissioned by the Society of Actuaries in 2014. Mr. Badura also discussed and presented samples of alternative pension metrics and measures of long-term risk such as contribution components, key contribution benchmarks, differing return and discount rates, and cash flow projections, all of which can be developed and provided to the Committee, the Board and other stakeholders on a regular basis to provide useful, VRS-specific information. VRS staff will bring recommended metrics and frequency of reporting to the Committee for consideration.

2016 Actuarial Valuation Results for Five Statewide Retirement Systems, Group Life Insurance, Health Insurance Credit and the Virginia Sickness and Disability Program

Ms. Bishop introduced representatives from the VRS plan actuary, Cavanaugh Macdonald Consulting, LLC to present the June 30, 2016 actuarial valuations for the Five Statewide Retirement Systems, Group Life Insurance, Health Insurance Credit and the Virginia Sickness and Disability Program. The VRS actuary conducts actuarial valuations annually as of the close of the fiscal year (June 30). In odd-numbered years the valuations are used to establish employer contribution rates. The results in even-numbered years are shared with the Board of Trustees to inform the Board of any emerging trends or indications of the magnitude and direction of contribution rates. After receiving the report and some discussion, the Committee recommends that the Board accept the valuations by approving the following action:

Request for Board Action: The Board accepts the June 30, 2016 Actuarial Valuations conducted by the VRS actuary, Cavanaugh Macdonald Consulting, LLC for the Five Statewide Retirement Systems, Group Life Insurance, Health Insurance Credit and the Virginia Sickness and Disability Program.

Status Update – City of Petersburg

Ms. Bishop provided the Committee with an update on the City of Petersburg and its contributions to VRS. As required by a new provision in the current Appropriation Act, VRS sent a letter to the chairs of the Senate Finance Committee and the House Appropriations Committee informing them of arrearages in various VRS contributions and the portion that is more than 60 days in arrears.

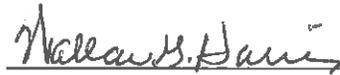
Proposed 2017 Meeting Schedule

Ms. Bishop presented a proposed 2017 meeting schedule for the Committee.

Next Committee Meeting

The next scheduled Committee meeting is November 14, 2016 at 9:30 a.m. in the VRS Conference Room, Third Floor, 1111 E. Main Street.

Submitted to the Board of Trustees on October 20, 2016.



Wallace G. Harris, Chair
Benefits and Actuarial Committee